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TRILLIUM PICTUM of Pursh.

Erythrocarpum *of Michaux.*

Undulatum *of Wildenow and Elliott.*

For the plant from which the figure on the other side was taken, we are indebted to our valuable correspondent, Mr Joseph Breck, of the Horticultural Garden at Lancaster, who gathered it somewhere in the vicinity of that town; and we think a discerning public will be pleased at our occasionally making them better acquainted with some of the beautiful native ornaments of American scenery.

This flower belongs to the class Hexandria trigynia (six stamens, three pistils) of Linnæus, and to Smilaceæ of the Natural System, and has received its name, Trillium, from *trilix*, triple, as it possesses

Three styles;

Three petals (leaves of the flower);

Three sepals (leaves of the calyx);

Three leaves on the stem.

It has not hitherto been discovered in any other country except the United States, and the only botanical work in which it has been figured is an early number of Sweet's Flower Garden. This we have not seen, but from the character of the work do not doubt that it is given there correctly.

We coincide with Dr Bigelow, in his *Florula Bostoniensis*, that it is a very handsome species, particularly as the fruit is rather a large scarlet berry. The only locality he gives for it is the Ascutney mountain, Vermont. Dr Torrey says it is found in Sphagnous

swamps, near Deerfield; in the Cedar swamps, New Jersey; near Williams' College; and on mountains in Pennsylvania. Pursh says also in swamps on the mountains in Pennsylvania.

We have gathered *Trillium cernuum* (nodding) in woods near Dedham, and believe it common in other places; although the least beautiful of the tribe, it is still elegant and interesting; the flower is pure white, much smaller than pictum. T. erectum (upright) is also found occasionally in old woods in New England; it is a dull purple color, larger flowered than Cernuum.

TRILLIUM *sessile* (sitting) — the flower not having any footstalk; has only been found in South Carolina; it is a dark chocolate color, the leaves beautifully variegated with dark and light green.

TRILLIUM *grandiflorum*, of Salisbury, is probably the handsomest of the species. We have never been sufficiently fortunate to find it, and do not believe it is to be met with in New England, although we should be glad of information to the contrary. The petals are one and a half to two inches long, white at first, gradually changing to a dark rose color; the berry dark purple. It is found in Pennsylvania, in Vermont, and at Black Rock, Lake Erie. If any of our friends in these localities should meet with it, and forward a box of plants, well covered up with wet moss, addressed to us, at Mr Geo. C. Barrett's, we would gladly pay the expense of packing and carriage, being desirous of making experiments on the cultivation of this, and other indigenous plants of this country, very many of which far surpass in beauty and fragrance, some of those imported from foreign countries at great expense and risk.

Those who are desirous of also pursuing this interesting subject, would do well if possible themselves to procure the plants from their native spots (habitats, as botanists term them), and while there to make the following observations, which appear important in the experiment of cultivation:

1st. *As to situation.* — Whether the plant grows wholly in water, on the edge of a running stream, in swamp mud, or on the high and drier part of a swamp; whether wholly or partially under the shade of trees, on dry plains, or exposed sunny banks and sides of hills.

2d. *As to soil.* — This comprehends not only surface, but subsoil; for many plants send roots deep into the earth, and draw their support from the lower stratum, while of others the roots creep an inch or less beneath the surface, and can only flourish in the decomposed leaves which annually enrich the top of the ground. This is the

case with the Dracæna borealis, which I found a few weeks since at Plymouth; the roots run close beneath a surface about two inches deep of very sandy, moist, black leaf mould; under this is a very sandy gravel, which appears to allow wet to percolate freely through; into this the roots do not penetrate at all. The nature of the soil must then be taken into consideration. For instance, Epigea repens appears to prefer a sandy bed, and has not thriven well with me in mere bog earth; I have now put some in a mixture of two thirds sand with one third black soil, where it grows luxuriantly, and have stuck some cuttings this spring in sand alone. The leaf and stem of this plant is rough and harsh, like the stems of the Equis-etaceæ, some of which are used in Holland for polishing, owing to the quantity of silex (of which sand is chiefly composed) they contain. This silex is very minutely dissolved by the action of the alkali formed during annual vegetable decomposition, and thus enters in a liquid form into the vessels of the plant, where it is again deposited, and is thought to cause the rigidity of stalks; it is found in different proportions in all soils, and is essential to most plants, but some from their peculiar structure need a larger supply of it than others.

I have taken up *Cypripedium acaule* early this spring from the roots of old decayed trees, with vegetable substances lying lightly over it; in this it appeared to luxuriate, and therefore I planted it in a deep bed of decaying saw dust, bark, sand, and a little old manure, and it has flowered finely; and my intention is to cover the plants over for protection during the winter with more saw dust and moss; but the peculiar nature of orchideous plants will hardly permit a fair decision on any mode of their cultivation, until it has stood the test of two or three years' experience.

Many plants lie deep in the earth, almost out of the reach of frost, and are even then additionally protected by moss and other herbage which covers the surface; if these are transplanted into the garden without attention to this particular, they are very liable to be destroyed by excessive cold. In England, many plants which are indigenous to this section of the United States, are preserved during winter in glass frames without heat.

Bulbous plants, and others which have broad or narrow leaves with veins running parallel to the midribs (monocotyledonous plants), such as Lilium, Convallaria, Erythronium, &c. should have their leaves protected from rubbing during their carriage; several plants of the Dracæna before mentioned, of which the leaves were much injured,

appear going off, but those which arrived untouched look very thriving.

We were delighted to see the Gerardia, transplanted last autumn, springing up vigorously in a garden in our neighborhood; and hope to see farther attempts of this nature succeed.

In a most interesting memoir by Moses A. Curtis, A. M., published in the last number of the Boston Journal of Natural History, on the plants growing spontaneously around Wilmington, North Carolina, I find the following notice—

"No. 39. *Bletia aphylla.* Superior every way to *Bletia Tankervilli*, with the odour of Iris verna." *McRee in Lit.*

How very desirable it would be to see this plant cultivated in the conservatories in this vicinity, with many others equally deserving such attention, which now unknown and disregarded,

"Waste their sweetness in the desert air."

J. E. T.

ON THE PEACH; ITS VARIETIES AND CULTIVATION.

This delicious fruit being very generally cultivated throughout the United States, and therefore, of course, all information regarding the species and their culture of great interest, I have endeavored to select from the most recent and authentic sources, both in America and Europe, such notices of varieties as might be of real, practical utility.

The peaches grown under the Italian sky, according to the practice of this country, on standard trees, are generally allowed to have the finest flavor; the writer, when in Paris, frequently ate the celebrated peaches from Montreuil, and they well deserve the reputation of second in rank, which they have acquired: they are grown against walls in the open air. In England they frequently ripen well on south walls, are very rarely good for anything on standards, but considerable quantities are grown with the assistance either of artificial heat or of glass. One tree in Suffolk, England, covers six hundred square feet of trellis under a glass case, without heat, and ripens annually sixty to seventy dozen.

The nectarine is a mere casual variety of the peach, and there are several very well authenticated cases of the peach and the nectarine ripening on the same branch of one tree.

The varieties raised from seed are innumerable. Many of them, though excellent, have not been noticed in any publication, and are therefore without names. From the named varieties I shall select those which are considered the finest, and give the character of the leaf, flower and fruit, but will first make a few observations on raising new sorts from seed.

Mr Knight has given a valuable paper on this subject in the first volume of the London Hort. Transactions. It appears that seedling peach trees may be made to bear in three or four years, by growing them in pots properly numbered and registered in the memorandum book, and inserting buds into full grown trees, which will fruit in two years and show the quality of the seedling. Mr Knight, by not cutting the lateral branches which grow near the extreme end of the shoot, and exposing the plants as much as possible to the sun, so as to ripen the wood, obtained blossom buds on seedlings two years old.

The celebrated varieties called *Acton Scot* and *Spring Grove* were produced by hybridising the large *French mignon* with the little *Red Nutmeg*, it being found a general principle, that the most perfect and vigorous plants are produced when the admixture takes place between those which differ most widely from each other.

In this case the two originals were planted in large pots, and brought by proper soil and cultivation into a state of vigorous health. After impregnation by the pollen, they were placed in a house where they were protected from mixture of other sorts, and only three peaches left on each, the stones of which were sown and produced the above excellent varieties.

Those who delight in experiments on raising new varieties of fruit, may, therefore, easily indulge their taste without the discouraging reflection that many years have to elapse before they can arrive at the results of their labors.

For farmers and those in the country who depend on peach orchards, it is wise always to have a considerable quantity of seedling trees, both for grafting stocks and for the chance of new sorts; but those who have merely room for a dozen trees, had always better apply to the nurseries, as they make it a business to have a stock of the sorts found by experience to excel in flavor and bearing.

Adjoining the leaf stalk on each edge where the leaf begins, are one or more small knobs, called *glands* by botanists. These form distinctive characters for the leaf. In some they are wanting, in others they are round or *globose*, and in others they are kidney-shaped

or *reniform*. This is readily discoverable with a magnifying glass of moderate power, and even with the naked eye.

Of some varieties the blossom is large and spreading, in others it is small and more closed. This is another character by which to distinguish: the remaining ones are derived from the fruit and the stone; whether the former is soft and melting, separating readily from the stone when ripe, and termed the *freestone peach*, or whether it is firm in its texture, adhering to the stone, and called the *clingstone peach*.

FREESTONE PEACHES.

Acton Scot. Leaves with globose glands; flowers large, open; fruit middle size, pale yellow and red, ripens end of August.

Early Admirable. *Belle de Vitry* of the publication Le bon Jardinier. Flesh white, red at the stone, ripens end of August.

Knight's Early Seedling. Leaves with globose glands; flowers large; fruit middle size, pale green and dark red, ripens middle of August.

Cambray. Leaves without glands; flowers large; fruit large, pale green and red, ripens end of August.

Hoffman's White. Leaves with reniform glands; flowers small; fruit middle size, white and red, ripens early in September.

Early Downton. Leaves with globose glands; flowers large; fruit middle size, pale yellow and red, ripens middle of August.

Violette Hative. *Bellegarde* of others. Leaves with globose glands; flowers small, pale; fruit large, pale green and dark red, ripens beginning of September.

Ansley's Colonel. Leaves with globose glands; flowers large; fruit large, pale yellow and red, ripens early in September.

Braddick's Red. Leaves without glands; flowers large; fruit large, handsome, pale green and dark red, ripens end of August.

Madeleine de Courson. *French Magdalen*. Leaves without glands; flowers large; abundant bearer; fruit middle size, pale yellow and red, ripens end of August.

Madeleine de Bollwiller. Leaves without glands; flowers large; fruit middle size, pale green and dark red, ripens middle of September.

Malta Peach. *Malte de Normandie*. Leaves without glands; flowers large; fruit middle size, pale greenish and red, ripens in August, of excellent flavor, and keeps well after gathering.

EARLY MIGNONNE. *Small Mignonne.* Leaves with reniform glands; flowers and fruit small; ripens early in August, fine flavor.

MOUNTAINEER. Leaves with globose glands; flowers large; fruit large, pale yellow and red, ripens early in September. Fruit smoothish, being a hybrid between the red nutmeg peach and Violette hâtive nectarine.

ROYAL GEORGE. Leaves without glands; flowers small; fruit large, green white and red, ripens end of August; an excellent bearer, and very good for forcing.

SPRING GROVE. Leaves with globose glands; flowers large; fruit middle size, pale green and red, ripens end of August.

WILLIAMS' SEEDLING. Leaves without glands; flowers small; fruit large, pale green and dark red, ripens in August.

CLINGSTONE PEACHES.

CATHARINE. Leaves with reniform glands; flowers small; fruit large, pale green and red, ripens end of September.

CLARET CLINGSTONE. Leaves without glands; flowers large; fruit middle size, dark red, ripens in October.

HEATH CLINGSTONE. Leaves with reniform glands; flowers small; fruit large, pale yellow and red, ripens end of September.

The foregoing are all ascertained of the finest flavor, size and beauty. There are some either not so well known to us, or certainly inferior to the above. A few of them will be described, that those who have them may examine their trees.

Montague. Leaves with reniform glands; flowers large.

French Sweetwater. The same.

President. Leaves with globose glands; flowers small; fruit large, pale yellow greenish and red; a good peach.

Vanguard. Leaves with reniform glands; large blossom; fine, melting, ripens end of August.

Téton de Venus. Leaves with globose glands; flowers small; fruit light red and yellow, melting, sweet and rich.

There are no doubt many others deserving of notice, which we shall be happy to add to our catalogue, if those who possess them will send us authentic details. In our next communication, we will give the best sorts of Nectarines and Apricots.

The number of Peach trees destroyed by the intense frosts of the past winter will render considerable renovation of the Peach orchards

necessary, and therefore make such lists of good trees valuable, particulurly if they can be relied on as authentic.

The soil most preferable for the Peach tribe is a dry light sandy loam, moderately enriched with vegetable manure; if it is too rich the tree will probably be made tender in the shoots, and less likely to endure the winter; also more liable to cankers. Forsyth says that Peaches require a lighter soil than Pears or Plums. A cold, damp soil does not suit them at all.

The Peach is generally budded by preference on the Damask Plum stock, but seedling Peach, Almond, or Apricot stock will answer nearly as well. This operation is best performed in July; the shoot from it should be headed down the following year, and the tree removed to the spot where it is destined to remain.

As the Peach tribe bear fruit on the ripened wood of a year old, all pruning must be carried on with a chief view towards this object, cutting out parts of over strong and luxuriant branches, which are more apt the succeeding year to bear wood than fruit; also, the smaller twigs, when too numerous, and interfering with each other; this promotes a healthy growth of those left; deformed and weakly branches should likewise be removed. In spring pruning, wait until the blossom buds are quite visible; then shorten all long thin shoots by cutting about half an inch above the leaf bud, never just above the blossom; although it sometimes happens that a leaf bud exists between two blossom buds, it is then safe to cut above this.

Harrison's rule is, never to allow the shoots left for bearing fruit to run far from the strong wood; therefore in pruning in the autumn, the bearing branches for the succeeding year are shortened, so as not to leave more fruiting buds than will probably come to perfection.

Cut out all dead and diseased wood, endeavoring to lead the young wood to fill up the vacancy.

Old trees may be much renovated by heading down, examining the roots, and cutting off those that have gone down more than two feet from the surface, and then renewing the soil from a good dry loamy pasture, with a little manure added to it.

This last operation will often remove the disease of mildew and honey dew. On pruning, generally, it may be remarked that, owing to diference in climate and method of growth, the practice in Europe would probably not exactly suit here; yet as the Peach is seldom pruned to any great extent in this country, much may yet be learned by experiment on this subject, to which we invite attention, as also to the

disease now infesting this tribe, which curls up the leaf; we have it now under examination, and shall communicate in our next all we can learn or observe respecting it. J. E. T.

[To be continued.]

ON FLOWERS, THE MORE GENERAL INTRODUCTION OF WHICH INTO THIS SECTION OF THE UNITED STATES WOULD BE DESIRABLE.

In forming a list of such plants, it is obvious that they may be divided into three classes: first, hardy annuals and perennials; second, green-house plants; third, ornamental shrubs and trees.

Many of them may be already here, and yet unknown to me, and others may be more general than I am aware of; yet even in these cases, as the names will be mostly taken from the shewy species, such a list will be of use to those who are desirous of making a selection for their gardens; and it will be continued occasionally, as the plants offer.

It will of course be evident that there are some varieties of many of the tribes which I mention, more shewy than those I select; with these I am either unacquainted, or they are very difficult to procure.

It is my intention, also, to prepare a similar list of fruits and vegetables. Any communications, therefore, on this subject, will be thankfully received and acknowledged.

HARDY.

Allium flavum — yellow Allium — bulbous. There is a large and a small variety of this color; the flowers are numerous, in a cluster at the top of the flower-stalk, of a bright color, and open gradually, that is, some fresh every day, so that it is desirable from its character of lasting. The Allium Homeri has much larger flowers, white, the seed vessel in the centre dark. Another variety is light purple.

Scilla bifolia, amæna, præcox, and *autumnalis*.—The squill, bulbous. The first, *bifolia*, is a beautiful little blue flower, of elegant dimensions, blossoming in the open ground in England about the beginning of April. I do not know whether it is hardy here, never having seen it; but if not, the slightest protection of a room

would be sufficient. Amæna and præcox are very similar to each other, early, larger, of a deeper and more beautiful blue than bifolia. Scilla autumnalis is rather a small plant, and, as its name dictates, is an autumnal flower; but the form of the flower is very elegant, and the color a fine blue. There is also a white Scilla (alba), which is very pretty and quite hardy.

Anthericum liliastrum, and *liliago*. — Herbaceous perennials; are both very desirable flowers, which come in spikes, of a very delicate transparent white; in shape resembling the white lily, but is of much lower growth. It is probable that this is already here, as I have seen it named in some New York catalogue.

Astrantia major and *minor*. — Hardy herbaceous; a pretty green and pink starlike flower, or rather cluster of flowers. This we have seen in a few gardens here; in England it is pretty common.

Astragalus alopecuroides — Foxtail flowering Vetch. — Hardy perennial; dense, woolly, oblong heads of rather a small, yellow, papilionaceous flower, like the clover; the whole growth of the plant and appearance of the heads, is very pleasing, two or three feet in height.

Aubrietia purpurea, and *deltoidea*. — Hardy herbaceous plants of the cruciferous tribe, growing low, near the ground; flowers purple, in great quantity; commences flowering in May, and continues nearly all the summer. They are very ornamental, particularly in rock work, or in crevices of the rock which abounds in the vicinity of Boston. They thrive best in dry situations, and are readily propagated by dividing at the root, by cuttings planted under a hand glass, or by seeds, which ripen plentifully.

Dracocephalum grandiflorum. — Perennial; uncertain whether hardy here, but is worth trying, if seed can be procured, as it is a beautiful large, blue, ringent flower. In England it requires a pure air for it to flourish.

Erodium hymenodes. — Hardy perennial; of the geranium tribe; an elegant growing plant, with a head of pinkish white flowers and brown eye; continues flowering great part of the summer, which is always a desirable qualification. It is a native of Mount Atlas, where it is found in fissures of the rock, and will therefore grow in any sandy, dryish soil; it may be propagated either by seed, or by dividing the root.

Geranium Wallichianum, Ibericum, sanguineum, argenteum, pratense, double, Lancastriense. — This is altogether a very shewy and desir-

able tribe of plants. The first mentioned was discovered in Nepal, by Dr Wallich, whose name it bears, and is among the most beautiful and hardy in Europe; no doubt it would stand the winters here well. I brought some seeds with me from England three years since, and gave them to Messrs Winship, where the plant will no doubt be found; it seeds freely, and grows readily, in almost any situation; flowers nearly all summer; blossoms large, very bright purple.

G. Ibericum. — Native of Iberia; flowers large; color blue; plant altogether very elegant.

G. sanguineum. — Stem erect; flowers large, beautiful crimson or blood color.

G. Lancastriense. — Stem prostrate, flowers large, beautiful flesh colored, with purple veins.

G. argenteum. — Foliage of a whitish silvery appearance; flowers large, pale red with darker stripes. This handsome plant is rather tender, and difficult of cultivation in England, but as it is a native of the Alps, it is not clear to me that this difficulty does not arise more from the prevailing humidity of the atmosphere, than from the inability of the plant to bear an extreme cold atmosphere.

G. pratense, double, is blue, and opens in a very elegant form. There are many other very showy species in this tribe, some of which will be noticed in future communications. The above are very easily obtained either here or in Europe.

Hepatica triloba. — Double red and blue; hardy perennial. This charming early flower is found in its single state both red, blue and white, in great abundance at Mount Auburn, where it embellishes the ground with its clumps of numerous flowers. About the latter end of April and beginning of May they appear before the leaves, which shew themselves only when the flower is gone, and are divided into three lobes (triloba) of a brownish green color, by which the plant may be known in the summer.

The double flowers are extremely handsome, colors very bright; they are quite hardy here, and will thrive well if not planted in too damp a soil. I have seen the red this spring in perfection at Mr Walker's garden, Roxbury, where it had endured the winter in the open air.

If required to grow in thick clumps, they should not be often moved, and then with great care, pressing the earth close to their roots; a strong, rich, loamy soil is best for them; seed for varieties

and double flowers should be sown in July or August, or as soon as the seed is ripe — some say the transplanting should take place in August; I am of a different opinion and think it should take place as soon as the flowering is over; in August the blossoms for for the ensuing spring are forming at the base of the foliage, and to check this operation would be destroying the flowers, whereas moving in May only endangers the ripening of the seed which is not wanted.

Double hepaticas in pots are sold in large quantities by the gardeners in England and from the absence of foliage the pot appears entirely filled with flowers.

The double white are considered rare.

Hypericum calycinum and androsæmum, St John's wort. Of this plant there are several varieties growing wild here which are troublesome weeds — but H. calycinum bears a very large yellow flower, and its numerous stamens form a beautiful appearance; it creeps over the ground and prefers the shade of trees, which makes it a valuable ornament for shrubberies; the foliage also is broad, thick and shining. I have gathered it wild in Ireland, of which it is a native, but it has not yet been found in England. I imagine it to be sufficiently hardy to bear this climate, but do not know that is has been tried.

H. androsæmum, called *Androsæmum officinale*, is a shrub about three or four feet high, flowers yellow, showy.

The juice expressed from the foliage is claret colored. The leaves were formerly applied to fresh wounds, hence the French name, *toute saine*, (all heal) from which it obtained its common English application *Tustan*. Flowers in July.

Lathyrus grandiflorus, great flowered everlasting pea, perennial. I have seen this named in Prince's catalogue, but have not observed the flower in this part of the country; it deserves a place in almost every garden; but although perfectly hardy in England, I am not certain about it here, as it is a native of the sides of Mount Etna. The flowers are very large, rose colored, and appear two or three together, the foliage and stems light and elegant. It is not dear in Europe and is therefore worthy of trial, as if hardy it will be a great ornament to the garden.

I will now add a few green house plants.

Amaryllis, psittacina, ulica bulbs. I am very glad to see this magnificent tribe on the point of general introduction into this country.

Messrs Winship have imported several varieties, which have blossomed in perfection, amongst them are *A. Johnsoni* and *regina*. Psittacina is however, the greatest favorite with me; it is white with dark red veins, the form is fuller and larger than many others, particularly when grown in perfection.

The Amaryllis derives considerable interest from the facility with which new and splendid hybrids are raised from seed, many of which are more hardy, surpass the originals in beauty, and flower more freely. The seeds should be sown as soon as ripe; when a few inches high they must be potted off into small pots; as soon as these are full of roots, remove them into larger pots, changing three or four times during the summer; many seedlings will thus flower in twelve months, particularly those from A. reticulata and striatifolia.

The best soil is about one third sand, one third chopped turfy loam and one third peat or leaf mould; I prefer the latter which is not so apt to rot the bulb as peat. Most bulbs which are wished to be forced into bloom should be planted shallow and not in too large pots, these should always be well drained with potsherds.

The celebrated bulb cultivator, Griffin, used to put a quantity of dry undecayed leaves with rich turfy peat over the drain, and place the bulb on a piece of light sandy loam, filling up with the compost. As soon as the blossoms have completely faded and the leaves begin to turn yellow the bulbs are in their dormant state; cease watering and place them in the house, where they are exposed to the hottest sun, this ripens the bulb. Sweet says many are better if taken out of the pots, and repotted when the flower begins to appear, such are A. reginæ, crocata, fulgida, Johnsoni, psittacina; others are spoiled by this, as A. aulica, calyptrata, solandræflora. In September and October many varieties will begin to push their leaves through the neck of the bulb; as soon as this is observed, give two or three inches of fresh compost, water very freely; at this period if they could be placed in a hotbed or stovehouse for a month or six weeks, the spikes of flowers would be very luxuriant; this was my constant practice. When opening remove them to a cool green-house, the flowers will last much longer.

In many species the leaves are covered with a beautiful glaucous bloom, which in my opinion adds much to the beauty of the plant. I was therefore very careful not to water over them and wash it off.

J. E T.

[To be continued.]

NOTICE OF THE GERMAN BOTANICAL TRAVELLING SOCIETY.

[Partly extracted and translated from the Allgemeine Botanische Zeitung, of 1834. By J. E. T.]

The object of this society is to undertake journeys for the collection of dried specimens of rare plants, their seeds, bulbs or fruits, which are distributed to subscribers in proportion to the amount paid by each member: — it will perhaps be better understood by giving a succinct account of the journey last undertaken, with the names of a few of the plants collected, and of that now proposed.

The plants of the last distribution were collected in the vicinity of Schuscha in Caucasian Georgia, near the confines of Persia, by Mr Hohenacker from Wurtemburg, and were in parcels of two different values — one containing 138 species for those who subscribed fifteen florins, and the other containing 175 species for those who subscribed twenty florins. As these plants came from a distant, but very interesting country, requiring the expense of carriage through Moscow, St Petersburg and Lubeck — as they are complete and in an excellent state of preservation, many of them accompanied with the fruit, they cannot be considered dear.

The rarity and value of the specimens will be exemplified by the following list of a part of the collection.

Iris Iberica.
Ægylops squarrosa.
Minuartia montana.
Scabiosa micrantha.
Pterocephalus plumosus.
Phyteuma campanuloides.
Astrantia caucasica.
Allium albidum.
Ornithogalum chloranthum.
Pyrus eleagnæfolia.
Capparis herbacea.
Delphinium divaricatum.
Scrophularia variegata.
Pedicularis achillæfolia.
Capparis herbacea.
Crambe juncea.
Robinia grandiflora.
Sophora alopecuroides.
Vicia trunculata.
Lathyrus roseus.
rotundifolius.
Trifolium trichocephalum.
Hedysarum pseud-alhagi.
Astragalus aduncus.
Cirsium corsmelii, serrulatum, and obvallatum.
Artemisia fragrans and Marschalliana.
Centaurea Adami, coronopifolia and macrocephala.
Celtis Tournefortii.
All properly ticketed.

The contemplated journey is to be made under the direction of the

society, by Mr W. Schimper, known by his late expedition to the vicinity of Algiers, and Dr Wiest, a Wurtemburg physician and botanist. These gentlemen are to proceed to Egypt and from thence on approach of autumn travel towards Arabia, if possible examining the neighborhood of the Red Sea and the district of Mount Sinai. They have strong letters of recommendation to the convent of St Catharine, which will doubtless procure them a favorable reception, and from whence they can safely forward their collections to Europe through Suez and Alexandria. The celebrated Decandolle had long expressed a wish that the society should fix on Arabia for an operation — but the late arrival of Mr Gay in Paris with an account of the botanical riches of this almost unexplored country decided the plan.

Two collections of dried plants were purchased in Paris in 1833, gathered by an old gardener of the Viceroy of Egypt, in the deserts around Sinai during the month of June, 1832. They contained 230 species, of which the greater part were *quite new*, from which it is judged that if this is the produce of a month which in that geographical situation is considered an advanced month of the vegetable year, the travellers who intend remaining six months on the ground must reap a fine harvest. The plan of this journey has been arranged so that the whole expense will not fall on those subscribing for shares. The grand Duke of Baden has presented the society with 1000 florins on account of Mr Schimper, and the king of Wurtemburg has given 1000 florins on account of Dr Wiest, and this latter presents an equal sum from his own resources towards the execution of the project. — However, as all these means are insufficient for the expense of the undertaking, the members of the society, as well as all friends of science who feel an interest are invited to subscribe for shares. From the support already offered by the government and the strong letters of recommendations by which the influence of the English and French Consuls in those countries will be secured, the society trusts sufficient confidence will be inspired to enable it to raise as many shares at thirty florins each as will pay the charges. However, should this not be the case the agreement with the travellers is so framed that the subscribers will have scarcely any risk — therefore those who wish to share in the fruits of this undertaking will have to subscribe thirty florins. Higher subscriptions are received, which would ensure a larger portion of the collections made, as these gentlemen do not intend to confine their researches to plants alone, but also to collect

bulbs, seeds, insects, fishes, shells, molusca, birds, skins and skeletons of mammalia, &c.—in fact no pains will be spared to render this journey worthy the support of the physician, the geographer and the lover of natural history.

Subscriptions will be received by Professor Hochstetter, and Dr Steudel, Esslingen, Germany.

ON THE COLOR OF PLANTS AND FLOWERS.

The curious and striking varieties of color in flowers, their metamorphoses, the delicate pencilling of the veins in many, and the beautiful hues of striped petals, which have from time immemorial attracted the attention even of the listless observer of nature, have of course not been left unexamined by the philosopher of every age; and although there is sufficient reason to believe that the usual methods of rigorous examination into cause and effect have been applied with all the ingenuity that a love of nature, or an ambition of distinction could suggest, these labors have not yet led to any very satisfactory theory on the subject of the cause of color, and its variation in flowers.

Those who are not conversant with raising varieties of *Tulips* from seed should be informed that what is technically called *breaking* of a seedling tulip, is the sudden change which takes place one year in the color of the flower; for instance from a dull purple it will change to a fine clear white with brilliant red stripes, or from another dull color to a bright yellow with dark stripes, and this bulb with its progeny of bulbs, if properly managed will always remain of the same colors. This process often takes six to twelve years, and cannot apparently be foreseen or accelerated, some never break or change at all. The person who raised or broke the famous tulip Polyphemus, told the writer that it was nine years before this effect was produced.

There also many other curious proceedings of nature on this subject, which must have been generally remarked; the flower of Cobæa scandens is green the first day and violet the next—the Hibiscus mutabilis is white in the morning, pink at noon, and red at night.

M. Raspail, an eminent French botanist, has written a long and elaborate memoir with colored plates, in which he endeavors to account for the different appearances of plants, and particularly their flowers, from the peculiar modifications of the circulating juices, which

in some states he calls *globuline* — this theory has been denounced by a first rate English botanist, as fanciful, though without any reason assigned for his opinion.

It is some years since I perused it, there appeared to me then much plausibility in it, at all events it exhibited considerable industry, research and ingenuity of reasoning.

M. Decandolle whose opinion on all subjects relating to the laws of vegetable structure is entitled to the greatest attention, has divided the colors of flowers into two series, the Xanthic, and the Cyanic as follows:

Xanthic or oxydized series	red.
	orange red.
	orange.
	orange yellow.
	yellow.
	yellow green.
Color of leaves,	GREEN.
Cyanic or disoxydized series	greenish blue.
	blue.
	violet blue.
	violet.
	violet red.
	red.

founded on a memoir of Messrs Schubler and Funk, published at Tubingen, in Germany, in 1825, where it is stated that all flowers may be divided into two classes, one having the *yellow* color for its type; these are incapable of passing into blue, but into every shade of red and white; the other having the *blue* color for its type which can also pass into every shade of red and white, but never into yellow; thus for instance, the Potentilla, a little yellow flower like the buttercup, which abounds every where, trailing along the ground, has been found of different shades of red, but never blue; the China aster which has every tinge of red, blue, is never yellow; the dahlia is never blue, but often yellow and red.

"It will have been remarked that white is omitted from these two series. It may be doubted, indeed, whether it really exists in a state of purity in flowers, and it seems to be rather some other color reduced to an exceedingly light tint. Redouté, the French flower-painter, is said to to have availed himself with great advantage of this fact. He always placed the flower he wished to represent before a sheet of paper like that on which he had made his drawing, and he

uniformly found that the flower would differ from the paper in being more yellow, or more pink, or more blue, or in some other way. White Campanulas become blue when they are dried; infusions of white flowers in alcohol have always a perceptible tinge. Flowers which are white verging upon yellow yield infusions which alkalies bring to a more positive brown; infusions of those which are white, tending to blue or red, become light red by the action of acids, and greenish by the action of alkalies."

"Infusions of yellow flowers in alcohol are of a clear yellow, without the flowers losing much color. Acids produce no other effect in these infusions than to weaken their color slightly. Alkalies make them more brilliant or browner.

"Blue flowers produce, in alcohol, infusions either of a clear blue, as those of flax, or very dark, as in the case of the Aconite and the Larkspur. By the addition of acids they become red, and of alkalies green. Those which are colored red by acids will not recover their blueness by the addition of alkalies, as sometimes happens to infusions of red flowers. Macaire having seen a red infusion of violets regain by degrees the natural blue of those flowers, by the addition of a vegetable alkali, such as quinine or strychnine, suspects that the color of the violet depends upon the combination of their chromule with some alkali. Schubler and Funk assure us that the infusion of the Blue Day Lily (Funkia cœrulea), treated with an acid, will present in the same glass all the tints of the colored spectrum. Blues are among the most changeable colors in vegetation, passing freely to white, and to different tints of violet and red.

"From what has now been stated, it appears to result that modifications of chromule are the cause of the diversity of colors; and that these modifications depend principally upon the degree of oxygenation. In leaves fully developed the chromule is green; it gains a tendency to yellow or red when it is more oxydized, as one perceives by the changes of the color of leaves in autumn by the effect of acids; and it appears to verge to blue when it is less oxydized, or, which comes to the same thing, more carbonated: thus we know that the flower of the Hydrangea becomes blue in a soil sufficiently impregnated with carbonate of iron."

"Although we are justified by the mass of evidence in asserting that the green color of plants is owing to the fixation of carbon in their tissue, in consequence of the power that light possesses of decomposing their carbonic acid, yet there are some exceptions that

deserve attention. Humboldt found Poa annua and compressa, Plantago lanceolata, Trifolium arvense, Wallflower, and the Rhizomorpha verticillata, green in the subterranean galleries of the mines of Freyberg, although born in total darkness, but in atmosphere highly charged either with hydrogen or nitrogen. Ferns and Mosses, again, will be green when other plants are blanched; and Humboldt found near the Canaries a Fucus which was bright grass-green, although it had grown at the depth of from twentyfive to thirtytwo fathoms (one hundred and ninety feet). Now, as light, according to the experiments of Bouguer, after traversing one hundred and eighty feet is weakened in the proportion of 1 to 1477.8, this Fucus must have been illuminated when growing by a power two hundred and three times less than that of a candle at a foot distance. Are we to suppose that this feeble degree of illumination was sufficient to decompose the carbonic acid of such a plant, or was not the decomposition rather owing to the operation of some unknown cause?"—*Library of Useful Knowledge, for April.*

I have seen ferns growing as green as grass in a tomb, and down the sides of a deep well where the light must have been very trifling; these exceptions I think make the cause assigned for colors very doubtful; and as to light being the cause of color, although it is true that one cannot see colors in the dark, yet in the mines where precious stones are found, the emerald or the ruby which has been imbedded in the dark bosom of the rock for ages, is and always has been the same color from the time of its first formation.

It appears to me that many of the apparent anomalous appearances in the colors of plants may be explained, on the supposition that the cause of them are metallic oxides taken up by the vessels of the roots from the earth in an exceedingly minute state of division from solution, and exposed by the different structure of the vessels of the petals or leaves, or of the pores on the surface (epidermis) to different degrees of oxidation, or perhaps to different modifications of light. Or the increasing acidity of the juices may also increase the oxidation; the nature of this work does not admit of a very extensive discussion of this subject in its pages, but it may be well to exhibit the preliminary position of the argument; that plants do contain metallic oxides.

Dr Sprengel, in a German publication called *Der Land und Hauswirth*, or the Agricultural and Domestic Economist, states that in almost all plants analysis discovers more or less iron, and as the

atmosphere does not contain any sensible quantity it must be admitted that it is derived from the soil.

In Sir Humphry Davy's Agricultural Chemistry, it is stated that the only metallic oxides found in plants are those of iron and manganese, but there is little doubt that copper exists in the rose, as may be verified by leaving a clean linen rag in rose water or in the water in which rose leaves have been steeped ; after some days it will turn green, and copper may be detected, even when the rose water has been distilled in glass or new tin vessels. I remember to have seen a scientific account in some French publication, of gold being extracted from the sage plant, although in very small quantities. Iron and manganese would however be sufficient to produce almost every variety of color known.

Immediately after the flower withers, a change in the juices of most plants takes place, by which change the fruit or seed is matured; this is very perceptible in the eatable fruits and proceeds until acidity becomes obvious to the taste ; after this saccharine juice is formed — now if iron in a low state of oxidation be the coloring substance of a flower, it is clear that as soon as the juice of the plant becomes more acid a farther oxidation takes place, this would cause a change in color.

I would instance the lilac. Iron in a low state of oxidation combined with manganese and carbonic acid form component parts of a mineral called Pearl spar, which is of a brilliant white — it may therefore exist in the same state in the white lilac ; and the manganese is often found, particularly in the Tiree marble, to be the cause of lilac color — as the juices ripen and grow more acid, the iron is farther oxidized, the flowers fade, turn of a rusty brown and finally the seed vessel ripens of a dark brown.

That Iron is able to produce almost every variety of colors we may learn from the facts that the native minerals,

Phosphate of iron is of all shades of blue.

Sulphate and arseniate of iron, are green, brown, yellowish red, brownish green.

Humboldtine or oxalate of iron is bright yellow.

Pyrosmalite or muriate of iron is a bright pistachio green.

Iron mica or Goethite is a ruby red.

Manganese is also found of most colors, from the greenish blue of the *Horn Mangan* to the rose red of the Tiree marble.

The amethyst is supposed to be colored by iron and manganese, the emerald by oxide of Chrome ; the topaz, the sapphire and the ruby by

iron, there is therefore a priori not the smallest impossibility in the above supposition; and as we know by chemical analysis* that many plants contain traces of these metals, the probability of its truth increases; the subject however is a *terra incognita*, an unknown land, in which there is plenty of room for the ardor of discovery to be employed.

It is well known to the florist that over manured soil deepens or spoils as he calls it the colors of his tulips and other favorites, and that from this deterioration it is difficult to recover them.

Strong manure contains a large proportion of alkali, and this always deepens and rather deadens many colors, particularly of the red, and purple tinge, while acids on the contrary lightens and enlivens them; this consideration may be experimentally applied to the subject; and in general where the known facts in one science can be brought to bear upon the unknown facts of another they are like an *Algebra* of experiments, oftener elucidating and clearing up than misleading. J. E. T.

EXTRACTS FROM FOREIGN PUBLICATIONS.

LOUDON'S GARDENER'S MAGAZINE, for May, 1835.

Observations on Gardening in Belgium, &c., by John Madison.

"*Camellias* are a tribe of plants which are grown almost to infinity in Ghent and its neighborhood. They are the fashion: and this is here, quite a sufficient apology for the immense numbers that are to be met with. It is very amusing to hear the gardeners and amateurs boasting to each other of their two or three hundred varieties of this plant. The Belgic gardeners are certainly very clever in the propagation of this plant, seldom failing in grafting, by approach (*à côtè*), every bud; so that a young camellia, with ten leaves and buds, is almost as certain of being made into as many plants. But, at the same time, in most years, a stranger would be struck with the want of flowers and flower buds on very large camellias, among the many thousand to be met with in their green-houses. It is in this they fail; and I attribute it principally to the nature of the

* Sir H. Davy introduced the roots of a Primrose into a weak solution of oxide of iron in vinegar, and on careful and accurate analysis found the vessels of the plant had taken up a sensible quantity of iron.

earth their large plants are grown in, but also partly to their removal into the open air before their flower buds are formed. I have visited in the season many collections, containing, very probably, a million plants; and, with the exception of M. Riender's, of Brussels, I cannot recollect seeing one well cultivated collection, in point of flower-bearing plants.

Azaleas. — The Belgian is extremely fickle in his taste for plants. The cultivation of the beautiful tribe of azaleas is, in a manner, passed by; and yet no country in the world is more favorable for that kind of culture than this. A few years back, they were the *mode;* and thousands were in flower at one time, in gardens where, at present, you would find but few, if any at all. I am glad to find, however, that immense quantities are sent over every year to England. This is a family of plants which ought always to remain in fashion; especially that variety named Azalea Morterii, a late flowering azalea, which comes into flower about a month after the commoner kinds. The Ghent gardeners have lately sadly neglected their azaleas: they have neither propagated the old sorts, nor made the most of those they have raised from seed.

Grapes ripen well and early: in the open air, on the walls, in September and October; and, in their forcing houses, as early as May. The soil, being sandy, contributes a great deal to their early ripening. The vines have, this year, been very much loaded on the open walls; and the fruit (the Sweetwater or black Hamburgh) has been very well tasted.

Peaches are not nearly so well flavored about Ghent as in England. They appear to me as too mealy; and good nectarines are very scarce. The pruning of the peach and nectarine trees is very singular, when compared with what is practised in England. Scarcely a tree is ever pruned in this neighborhood before the month of April; many even prefer waiting till the fruit is just formed, and the flowers are falling off, before they let a knife approach the tree; at which time or a little before, all the trees undergo a complete whitewashing with lime water, to kill the insects. I have observed that those trees which are so washed are sure to produce the finest fruit, and to be more free from insects than those which I have, for experiment left unwashed. This washing, which is also given annually to the apple and pear tree, is, I believe, principally confined to those places where the soil is sandy in excess; as, in the country about Liege, they dare not make use of this process,

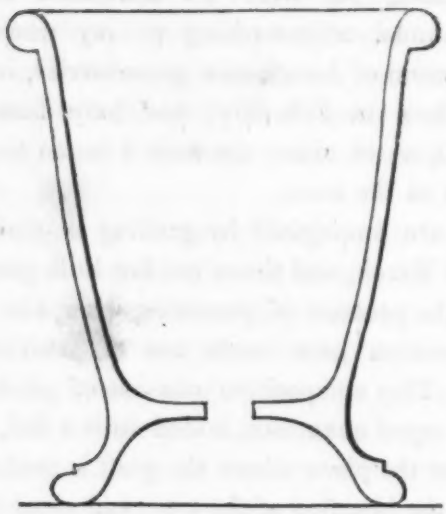
for fear of killing the tree. So convinced now am I of the utility of an annual whitewashing to my trees, that I practise it upon a collection of Lancashire gooseberries, immediately after I have pruned them in February; and have found the best effects resulting from it, never since the time I began to practise it, having found an insect on the trees.

Cherry trees are propagated by grafting *en fente* in the month of April or end of March, and throw out but little gum. I am inclined to think that the practice of plastering over the wounds with the grafting composition here made use of prevents gumming from taking place. This composition consists of pitch, resin, and bees' wax, in nearly equal quantities, boiled over a fire, and, when liquid applied to cover the place where the graft is made. This keeps out the rain, stops the bleeding of the tree, and gives way very gently as the shoot increases; it is by far the neatest grafting composition that I know. In very hot weather, a little more resin may be added, to prevent the composition from melting."

Notices on the state of Gardening in part of France by Mr George Charlwood, Seedsman, Convent Garden, London.

This gentleman is well known in many parts of this country and we may add that no one is better able to give just and comparative ideas on this subject.

"Another department of culture is that of flowers exclusively in pots for sale, as mentioned, in the flower market. Then, again, there are some few more extensive growers of roses, &c., who have also a general collection of the rarer and better sorts of plants, such as M. Noisette, M. Cels, M. Soulange-Bodin, M. Laffay, and some few others, who also cultivate roses, dahlias, &c. At Versailles, which is ten or twelve miles from Paris, camellias are extensively cultivated; but in no instance could I observe anything approaching to the extensive or business-like arrangements which are apparent in the large nurseries in England; nor the slightest approach to that extent of capital embarked in the various departments of the trade, with the air of bustle and deep occupation so evident with us. Any attempt at such a comparison in regard to the value, quantity, and variety of business, between the respective countries, would be futile and even absurd."



Notice of an improved Garden Pot by Thomas Carey Palmer, Esq., F. H. S. &c.

THIS cut represents a kind of garden pot made of common clay, at the cost of 4*s.* 6*d.* per cwt., many of which I have been using for the last twelve month. I find they do not blow down in windy weather; that they do not allow worms to enter when standing on the ground; and that those worms which happen to be in the mould before it is put in escape at the bottom hole, without, as it were, sealing it up, and making it water logged, and, besides, without the power of entering again through the same hole; so that this pot is not only a preservative against worms, but a means of getting rid of them where they exist in the soil, or by accident get into it. These pots are also useful for plants which require to be protected from the approach of ants and many other insects, as they can stand in a pan of water without wetting the roots; and, although not a cultivator of heaths myself, I am inclined to think they might be beneficially used in hot weather for those plants to keep the roots cool over water without rotting them. These pots were made at my suggestion, by Mr Marshall, near Counter Hill, New Cross, Lewisham Road. The form is as you know not new; but I believe it has never been used for common pots.

Bromley, Kent, March 22, 1835.

"*Camellia francofurtensis.* — I have to relate to you great news. I have gained from the seed of the camellia argentea the most splendid variety which ever has been seen in this country. You

think it, perhaps, not possible; neither have I ever expected such a triumph. It flowered first last year, on a very weak plant; and although so very beautiful that paintings and lithographic plates were taken from it, yet the beauty of the present flower surpasses the most extravagant wishes. It is quite as large as the C. reticulata; the form and colors are unrivalled [we understand that it is white with dark spots]; and there is no doubt of its maintaining the first place among camellias for at least twenty years. It is named the Camellia francofurtensis, and is the pride of our town — the conqueror's crown of the genus. Had the flowering plant stood at some place about London, I am fully convinced that it would have excited great speculations; but the Camellia francofurtensis will soon reach England, and will be required for every collection. — *J. Rinz, Jun., Nurseryman. Frankfort on the Main, Germany, March* 19, 1835.

Cytisus bracteolatus is now finely in bloom with us. It is a most desirable conservatory plant, and is loaded with racemes of golden yellow flowers, which are powerfully fragrant. — *George Penny. Milford Nursery, near Godalming, England, March* 17, 1835.

Harrison's Florticultural Cabinet, for May, 1835, contains figures of the new Violas or Pansies as they are called. One, the *Iver beauty Pansy*, is very remarkable and we judge must be handsome; it has a clear narrow sky blue border round the whole of the petals; the remainder of which is a bright pale yellow. The other is the *Royal Crimson Pansy;* the inner half of the three lower petals is yellow, the remainder and the whole of the two upper petals bright crimson.

Paxton's Horticultural Register has passed into the hands of Mr James Main, who will no doubt prove an able conductor. In the number for May, Mr Mearns on Coiling Vines in Pots, says, "Your readers will no doubt be desirous to know how the coiling system of propagating the grape vine goes on. At every attempt it is still more prosperous. I have one of this season with a most promising crop of nineteen bunches of the white Frontignan. I have a great many in pots coiled last March, which will produce me from seven hundred to eight hundred fine bunches, in all, about ninety vines in pots and boxes, which will produce about one thousand bunches of grapes this year; and the bunches are as fine as you could desire under any method of cultivation, and will be matured in the greatest perfection. Many are at this time nearly ripe.

"You have not forgotten my notice to you last season, of a rootless shoot of the same season producing thirtyfive bunches; the object was attained by stopping, so as to induce a second show of fruit, and they were all perfectly ripened. The vine is still in the box, and broke as luxuriantly, and showed as fine as I ever saw upon any vine; it developed seventyeight bunches, and I have retained thirtysix, which, I have no doubt, will be as fine of the kind (Purple Constantia) as can be. It is astonishing how well all the varieties of the Muscat of Alexandria bears, set and swell, by the pot culture. The sceptical Mr Grey, I think, would be struck dumb if he were to see them, and I should be most happy to see him if he would pay me a visit; I fancy he would become a convert to the pot culture of grapes.

"I have found that the best method to propagate the vine is from pieces of the old wood instead of the young. I cut off lengths of three or four years' old wood from six to ten or more inches, and after denuding them of all warty excrescences, besides that at the apex, I bend them horizontally round the inside of the pot, using as small a size at first as I can safely bend them into, so as to give me the chance of frequent shifting, and place them in bottom heat. When a shoot arises, it comes up like a strong asparagus bud, and soon has abundance of fine roots, with a great reservoir of food to support it. When it has grown to the height of eight or ten inches I pinch off the top, and then all the laterals, till I induce a principal eye to burst, which lead *upwards*, divesting it of all laterals and tendrils, till it is five or six feet long, before I again top it, if it be of the desired strength; but if not I top at two or three feet according to its strength, till I have got the strength required, which the plant soon gains, in consequence of the number of active and vigorous roots. When the pot is full of roots, re-pot it, and afterwards it will do well without placing again in bottom heat."

Senex on preventing the attacks of insects, mildew, &c. observes, "The best, cheapest, and easiest produced liquid for defending and cleansing fruit-trees from insects is common soap suds from the laundry. I have always used this waste water for all kinds of trees, whether on walls or standards, employing the force of the garden engine. The bitter of the alkaline principle, and the clogging effect of the greasy matter on the movements of minute insects, if not fatal is certainly offensive to all kinds inhabiting walls or trees. Besides, the cleansing effect of such a liquid thrown on with force gets rid not only of insects but many other impurities, and the trees always appear

to be refreshed and invigorated by it. And it may easily be conceived, that stems and branches coated with the white curdlings of the soap, and the opening scales of the buds repeatedly filled by the same, must make the bark of the one and the interior of the other very disagreeable retreats, whether for board or lodging. The only time in the season when such an application is unsuitable will be during six weeks before the fruit begins to ripen, as certainly no taint of the soap should remain on the fruit.

"This application is available, useful, and even necessary on another account. It is a mortal enemy to the parasite fungus called mildew; and not only prevents the attack if timely applied, but kills the fungus, and recovers the wounded bark in a very short time. Some gardeners add a little of the flour of brimstone in the remedy for the cure of mildew — an useful addition, as it is equally destructive of this pernicious fungus.

"Soap-suds is equally efficacious in banishing the little acarus commonly called the red spider, so detrimental to fruit trees and many other plants grown in a high temperature. In forcing-frames and houses they are a great pest, and are also met with on wall trees in summer. They thrive and increase wonderfully in a dry atmosphere, and are greatly annoyed by moisture of any kind; and in some cases, when water or steam would be hurtful to certain plants, the acarus can only be banished by fumes of sulphur evolved from a strongly heated flue or chafing-dish; but wherever water can be copiously and forcibly applied this little insect cannot thrive to be seriously hurtful."

An auctioneer in London advertises a number of *Red* flowering laburnums for sale being the first that had been offered for sale in England, they were from France.

Sweet's British Flower Garden contains colored figures and descriptions of

Rhododendron venustum, one of the hybrids from R. arboreum and R. Caucasicum; the clusters of flowers are very dense, of a rich pink colors with dark red spots inside.

Narcissus maximus, resembling in some measure the common daffodil.

Abutilon pulchellum, a fragrant small white flowering shrub, from New South Wales.

Mutisia latfolia, an elegant plant of the Compositæ tribe from Valparaiso, Chili, named after Mutis, the chief of the Spanish botanical expedition to New Grenada.

EDWARDS' BOTANICAL REGISTER, for May, contains colored figures and descriptions of

Lepanthes tridentata,
Dendrobium Pierardi, } Orchideous plants.
Bletia reflexa,

Begonia petalodes, a small flowered Begonia, the two sepals (calyx leaves) rose colored, the two petals (flower leaves) white.

The editor says "one of the prettiest things in the gardens of Schonbrunn, the Imperial palace (near Vienna) is a Begonia house filled with this genus and Ferns growing on decayed wood and old tan.

Physianthus albens, an Asclepiadeous climber from Mexico, not of much beauty.

Caprifolium hispidulum, bristly honeysuckle, a small flower in pink clusters, described as a very rare hardy shrub of low growth, from the North West Coast, discovered by the unfortunate Mr Douglas.

Orobus atropurpureus, dark purple orobus. A hardy perennial from Algiers.

CURTIS'S BOTANICAL MAGAZINE, BY J. LINDLEY, contains colored figures and descriptions of

Zygopetalon Mackaii, } Two orchideous plants, the former hand-
Neottia calcarata, } some and tolerably plentiful.

Goldfussia anisophyllæ, a beautiful plant found by De Sylva at Sylhet, introduced by Dr Wallich; tender, somewhat resembling Salpiglossis.

Chilodia scutellarioides from new Holland, hardy green-house, something like the little purple gerardia, which is common in every wet spot near Boston.

Saxifraga ligulata, fringe leaved saxifrage, the most beautiful of the tribe; introduced from Nepal by Dr Wallich; large white flowers in clusters, with pink anthers; it flowers in January and February, is tolerably hardy and would in consequence be a delightful addition to the green-house.

Epacris impressa, moderate hardy green-house plant from New Holland, very graceful and remarkable for the large size (compared with the rest of the genus) and the rich deep rose color of its pendant flowers.

Acacia prensans, an elegant climbing shrub, attaching itself tenaciously to everything within its reach by means of copious small hooked prickles abounding on its stem. Its native country not

known, there being only a single tree existing in the garden at Funchal.

Mr Douglas the Botanist. — The intelligence of the death of this enterprising traveller and botanist will be read with feelings of the deepest regret, by every one acquainted with the eminent services he has rendered to botany, and other branches of natural history, in the course of the last twelve years. His name, in fact, is associated with all the rare and beautiful plants lately introduced from North-west America, which, by means of the Horticultural Society of London, have been extensively distributed not only in Britian, but over Europe. To him we are indebted for the elegant clarkia, the different species of pentstemons, lupines, œnotheras, ribeses, and a host of other ornamental plants which now adorn our gardens, and which have formed the great attraction of the several botanical publications wherein they have been figured and described.

Mr Douglas was born at Scone, near Perth, and served his apprenticeship as a gardener in the gardens of the Earl of Mansfield. About the year 1817 he removed to Valleyfield, the seat of Sir Robert Preston, Bart., then celebrated for a choice collection of exotics, and shortly afterwards went to the Botanic Garden of Glasgow. Here his fondness for plants attracted the notice of Dr Hooker, the professor of botany, whom he accompanied in his excursions through the Western Highlands, and assisted in collecting materials for the *Flora Scotica* with which Dr Hooker was then engaged. This gentleman recommended him to the late secretary of the Horticultural Society, Joseph Sabine, Esq., as a botanical collector; and in 1823 he was despatched to the United States, where he procured many fine plants, and greatly increased the Society's collection of fruit trees. He returned in the autumn of the same year; and in 1824 an opportunity having offered, through the Hudson's Bay Company, of sending him to explore the botanical riches of the country adjoining the Columbia river, and southwards towards California, he sailed in July for the purpose of prosecuting this mission. In one of his letters, now before us, he thus speaks on leaving England — "I had a fine passage down the channel, and cleared the Land's End on the 1st of August. The day was warm, with a clear sky: the evening cool and pleasant. I stood on deck looking on the rocky shores of Cornwall, burnished with the splendor of a setting sun — a noble scene. By degrees the goddess of night threw her veil over it, and my delightful view of happy England closed — probably closed forever!"

While the vessel touched at Rio de Janeiro he collected many rare orchideous plants and bulbs. Among the latter was a new species of Gesneria, which Mr Sabine named in honor of its discoverer, G. Douglasii. He was enraptured with the rich vegetation of a tropical country. He stopped at Rio longer than he anticipated, and left it with regret. In the course of his voyage round Cape Horn he shot many curious birds peculiar to the southern hemisphere, and prepared them for sending home. On Christmas day he reached the celebrated island of Juan Fernandes, which he describes as "an enchanting spot, very fertile, and delightfully wooded. I sowed a large collection of garden seeds, and expressed a wish they might prosper, and add to the comfort of a second edition of Robinson Crusoe, should one appear." He arrived at Fort Vancouver on the Columbia, on the 7th of April, 1825. Here an extensive field presented itself to him; and the excellent manner in which he performed his duty to the Horticultural Society cannot be better exemplified than by referring to the vast collection of seeds which from time to time he transmitted home, along with dried specimens, beautifully preserved, and now forming part of the herbarium in the garden of the Society at Chiswick. Of the genus Pinus he discovered several species, some of which attain to an enormous size. The Pinus Lambertiana, which he named in compliment to Aylmer Bourke Lambert, Esq., Vice President of the Linnæan Society, is, perhaps the largest of the whole. One of these, which had been blown down measured two hundred and fifteen feet in length, and fiftyseven feet and nine inches in circumference, at three feet from the ground. The cones of it which Mr Douglas sent home, and which we have seen, were sixteen inches long, and eleven inches in circumference. The kernel of the seed is sweet and pleasant to the taste, and is eaten by the Indians, either roasted or pounded into course cakes for winter store. The resin which exudes from the trees when they are partly burned, loses its usual flavor, and acquires a sweet taste; in which state it is used by the natives as sugar. Another species, named by Mr Sabine, Pinus Douglasii, attains nearly the size of the above.

In the spring of 1827 Mr Douglas traversed the country from Fort Vancouver, across the Rocky Mountains to Hudson's Bay where he met Captain (now Sir) John Franklin, Dr Richardson and Captain Back, returning from their second overland Arctic expedition. With these gentlemen he came to England in the autumn,

bringing with him a variety of seeds, as well as specimens of plants and other objects of natural history. Through the kindness of his friend and patron Mr Sabine, he was introduced to the notice of many of the leading literary and scientific characters in London; and shortly afterwards he was honored by being elected, free of expense, a Fellow of the Linnæan, Geological and Zoological Societies; to each of which he contributed several papers, since published in their *transactions*, evincing much research and acuteness as a naturalist. A handsome offer was made to him by Mr Murray of Albermarle street for an account of his travels, which he commenced preparing for the press, but which, we grieve to say, he never completed. Some entertaining extracts from his letters to Dr Hooker were published in *Brewster's Edinburgh Journal* for January, 1827; and a genus of plants belonging to the natural order Primulaceæ was dedicated to him by Professor Lindley, and defined in *Brande's Journal* for January, 1828; but it will scarcely be credited in this enlightened age, when there are so many channels open for communicating information, that the interesting journal of his travels, which we have seen and read, has been allowed to slumber unregarded in the archives of the Horticultural Society in Regent Street.

After being in London for two years, Mr Douglas again sailed for Columbia in the autumn of 1829; where he has since been enjoying his favorite pursuit, and adding largely to his former discoveries. We were in expectation of his return by the very ship which has brought us the tidings of his horrible death; an event the more to be regretted from having been occasioned by circumstances which we shudder to contemplate — that of falling into a pit made by the natives of the Sandwich Islands for catching wild bulls, one of the latter being in it at the time.

Such, we understand, has been the unfortunate destiny of our intrepid friend and countryman, at the early age of thirtysix. Having known him intimately from a boy, we feel a mournful pleasure in looking back to the many agreeable hours we have spent in his society, and deeply deplore his untimely fate. — *W. B. B.*

M. Pallas has, after repeated experiments, succeeded in procuring a crystallized sugar from the stalks of Indian corn, which bears a strong analogy to that extracted from beet root.

MISCELLANEOUS ARTICLES,

COLLECTED BY T. G. F.

Poison by Ivy. — Wash the parts affected with lime water, or weak ley as soon as the effects of the poision are perceived.

A Cheap and Pleasant Dentrifice. — The juice of the strawberry, without any previous preparation dissolves the tartareous incrustations on the teeth, and sweetens the breath more effectually than many more costly applications meant for the same purpose.

To Prepare Fruit for Children, &c. — Put apples sliced, or plums, currants, gooseberries, &c. into a stone jar, and sprinkle as much loaf or brown sugar, or molasses as necessary among them ; set the jar on a hot hearth, or in a sauce pan of water, kept hot over a fire, and let it remain till the fruit is thoroughly done. This mode of preparing fruit makes them a more wholesome article of diet than when the fruit is made into pies, puddings, &c.

Cure for the Sting of a Wasp or Bee. — A Liverpool paper states as follows:

A few days ago happening to be in the country, we witnessed the efficacy of the remedy for the sting of a wasp mentioned in one of our late papers. A little boy was stung severely and was in great torture, until an onion was applied to the part affected, when the cure was instantaneous. This important and simple remedy cannot be too generally known, and we pledge ourselves to the fact above stated.

Facts Worth Knowing. — In New England, in the days of my grandmother, they used to preserve their ripe watermelons and green corn so as to have them fresh in winter and spring, by placing them till used, under their hay [stacks, or in hay mows in barns, &c] This practice might be applied usefully to some other fruits and vegetables.

Farmers too, might easily save the flesh of horses and cows, and confer a kindness on their animals, in preventing the usual annoyance of flies, by simply oiling the parts most exposed. Flies will not light a moment on the spot over which an oiled sponge or cloth has been pressed. Probably either fish oil, or flax seed oil will answer. But what I have used with success is the tanner's oil. Every man who is compassionate to his beast ought to know this simple remedy, and every livery stable and country inn ought to have a supply at hand for the use of travellers. — *Philadelphia paper.*

Peach Trees. — Mr William Phillips, of Pennsylvania, has de-

rived great benefit from the application of air slacked, old effete lime to peach trees, the effects of which, according to his own account, have been very great. He puts about a peck of lime to each tree; he thinks it useful as a preservative against the insect so fatal to these trees. We have then two applications recommended, unleached ashes and lime, and from our own experience are able to recommend both. We are not sure which has the preference. The lime and ashes should both be dug up every spring. A friend suggests that he killed his young peach trees by lime; caution is needed in the application. — *Mas. Ag. Rep.*

COLUMBIAN HORTICULTURAL SOCIETY.

A WRITER in the National Intelligencer with the signature W. gives a description of the exhibition of the Columbian Horticultural Society, at Washington on the 10th and 11th June and states that —

"The Hall of exhibition, a large and spacious apartment in the City hall, was handsomely decorated with evergreens, which ornamented the doors, windows and portraits, that hung over the walls of the room. The entrance into the principal apartments was through an arcade, also formed of evergreens; and upon entering the hall, a scene of beauty and splendor burst upon the sight, of which it is difficult to form a just conception. The first object that struck the eye, in this fairy scene, was a large and magnificent pyramid of greenhouse plants, of every variety of exotics and displayed a mass of floral beauty, which from the combination of its parts, the harmonious disposition and blending of the colors, and the taste with which it was constructed and arranged could not be surpassed. Of the excellence of the various collections which formed this pyramid of living beauty, I cannot now speak, I leave it to the committee to whom the task has been assigned, and who will be more able to do justice to all. They were furnished by Messrs J. Pierce, General Douglas, Dick, Yates, Rich, &c. But, in speaking of these fine collections, so harmoniously combined by the hand of taste, into a mass of beauty, I cannot withhold the expression of my admiration at the large collection of beauful pelargoniums or geraniums, distinguished for their size and brilliant colors, furnished by Mr W. Rich, one of the most zealous and indefatigable members of this useful Society, and to whose taste it is mainly

indebted for the fine arrangement which was observed in the whole apartment. The large pyramid, crowned with a sage plant, resembling a magnificent plume, was protected at its base by a neat wooden railing on the right and left of which, along the walls of the chamber, were disposed the various floral wonders of Asia, Africa and South America, pomegranates, orange and lemon trees, cactus, &c., &c., forming alleys between, strewed with rose leaves, and leading the spectator to other beauties in the floral kingdom, not less striking and delightful. On the tables in the eastern part of the Hall, to the right and left of the room, were smaller pyramids of roses, pinks, lilies, poppies, and every variety of garden flowers that the season could afford. These were prepared by Mrs Pierce, Mr Douglas, and other male and female florists of the District, in a manner highly creditable to their taste and industry. They did not differ, however, very essentially from those prepared for the first annual exhibition. These tables were also ornamented with numerous vases of garden flowers, and baskets of fruits, among which every one was struck by the beautifully arranged collections of violets, vases, &c., imbedded in moss, and presenting to the eye a richly colored painting, prepared by Mrs Suter with the tact and feeling of an artist. On the long table in front of the President's chair, the eye was struck by a beautiful vase, formed of the native flowers of the District, by the hand of Mrs Towson, a lady whose ardor in the cause of the Society is only equalled by her taste, and to whose exertions and zeal, with those of Mrs Suter, Mrs Bomford and other ladies, the exhibitions of the Society so far owe much of their splendor and beauty. How innocent, how beautiful how appropriate to the female hand, is such an occupation! and how delightful and gratifying such a taste!

"This table was also ornamented with glass and porcelain vases filled with a profusion of choice garden flowers, and with silver baskets, &c. of the finest strawberries, cherries, gooseberries and currants. Of the fruits, the most remarkable were the strawberries of Maj. Hickey, Mr Pierce and Mr Towson: the cherries and gooseberries of Mr Seaton, Mr Dick, Mr J. A. Smith and Mr Pierce; the currants from the garden of the President of the U. S. and of Mr Gales, and the English hautbois of Mr Cammack. The porcelain vases were those which were awarded as premiums to the successful competitors at the first exhibition of the society, and are fine specimens of the porcelain manufacture of this country.

"Amidst this profusion of sweets, this banquet of Flora, the scent was regaled with the most delicious fragrance, the eye with the most

diversified and exquisite beauty, and the ear with the harmony of the Marine band, and the soft tones of the Æolian harp, and the delightful melody of the mocking bird, warbling its 'native wood notes wild' amid bowers of roses, and the verdant foliage and golden fruit of orange and lemon trees. The effect of such a scene may be more easily conceived than described. The senses of the imaginative were 'wrapped in Elysium,' and felt as if he were roving 'through the meanders of enchantment, and reposing by the water falls of Elysian gardens,' and in all, the scene produced a high degree of pleasure, and a rational gratification, that perhaps no spectacle of mere physical beauty could afford.

"In the vegetable department, the cabbages, turnips, peas, onions, cucumbers, potatoes, beets and other esculents of Messrs Camp, Cammack, Hickey, Douglas, Grimes, Barry, Naylor, Gales, Jenkins, &c. were remarkable for their magnitude and early maturity. Of these due notice will doubtless be taken by the committee, with a view to the awarding of the premiums, therefore, it is not necessary in this hasty sketch, to particularise. I will observe, however, that the vegetable department was much better filled, and the specimens of much larger growth at this than at the first exhibition, notwithstanding the severity of the past winter, and the lateness of the spring, which affords a striking evidence of the stimulating and beneficial effects of the society on the growers of these fine vegetables, within our District. Indeed the whole exhibition affords the most gratifying proof of the utility of the institution, which is destined, from its locality and the zeal and enterprise of its members, to be of incalculable benefit to our country.

"In addition to the garden vegetables, several specimens of agricultural products where exhibited. Stalks of rye from seven and a half to eight feet high, by Mr J. A. Smith, and Mr W. A. Bradley, and some extraordinary red clover, by Mr Smith and Maj. Hickey.

"This gratifying exhibition was closed in the evening of the 11th by an excellent introductory lecture from Dr T. P. Jones, the society's lecturer on horticultural chemistry, which evinced much research and intimate knowledge of the subject.

"The interest excited by this exhibition was such as to bring, during both days, and especially at night, crowds of spectators to gaze on this scene of floral beauty and enchantment, and it is believed that all who went were in a high degree gratified. Nor could it be otherwise; for callous must the heart, and torpid the feelings of that being who could be placed amidst such a scene and look upon it with apathy and indifference."

MASSACHUSETTS HORTICULTURAL SOCIETY.

The exhibitions of this Society for the month past have been attractive and gratifying to visitors, as well as honorable to the members of that institution. Lists of fruits, flowers and vegetables shown at the Society's Hall are given at large every week in the New England Farmer, and their repetition might be deemed superfluous in this Register. We shall however advert to the most remarkable.

May 30. From the conservatory of the Hon. Mr Lowell. A splendid Cactus speciocissimus of large size, with a profusion of flowers finely grown. L. Josselyn, Esq., Messrs Hovey, E. M. Richhards, Esq., Mr Thomas Mason, exhibited varieties of elegant flowers.

June 6. William Carter, Joseph Morton, Messrs Hovey, John A. Kenrick, Thomas Mason, S. Walker, fine flowers. John Waters, a remarkably large Snow Ball, flower twentytwo inches in circumference.

June 13. Samuel Walker, S. Sweetser, John A. Kenrick, James Kavenagh, William Kenrick, Samuel Pond, Amos Atkinson, Edward Augustus Story, exhibited flowers. J. L. L. F. Warren and Joseph Warren, strawberries.

June 20. "The brilliant display of flowers," says Mr Winship, "exhibited this day justly excited the admiration of all amateurs, and especially those shown from the conservatory of that distinguished horticulturist, the Hon. Mr Lowell; some of them were new and never before exhibited at the Society's rooms. The Cactus speciocissimus was beautiful and the interest evinced was very great on account of several large sized flowers being produced on a branch of small size." The other exhibitors were those who have heretofore contributed to shows of the Society.

June 27. "The display of flowers, this day," according to Mr Winship, "was unrivalled at any former exhibition at this season of the year. The great increase of beautiful and new roses, herbaceous and shrub flowers excited general admiration. The contributors were M. P. Wilder, Thomas Mason, S. Walker, John A. Kenrick and Messrs Winship.

The show of fruits, principally strawberries, as reported by Mr B. V. French, "was probably finer than was ever before exhibited at the Society's tables." The contributors were T. Hastings, Hon. E.

Vose, J. L. L. F. Warren, Richard Ward, Messrs Hovey, Jacob Tidd.
A melon cucumber from A. D. Williams, Roxbury.

The following list of officers were chosen:

President.
HON. ELIJAH VOSE.

Vice Presidents.
E. BARTLETT,
S. A. SHURTLEFF,
G. W. PRATT.

Corresponding Secretary.
R. T. PAINE.

Recording Secretary.
E. WESTON, JR.

Counsellors.
SAMUEL DOWNER,
JOHN W. BOOTT,
E. M. RICHARDS,
JOHN PRINCE.

Committee on Fruit.
S. A. SHURTLEFF.
SAMUEL DOWNER,
E. M. RICHARDS,
B. V. FRENCH.

Committee on Flowers.
J. E. TESCHEMACHER.

Committee on Library.
J. E. TESCHEMACHER,
E. WESTON, JR.

Committee on Synonyms of Fruit.
SAMUEL DOWNER.

Executive Committee.
CHEEVER NEWHALL.
GEORGE W. PRATT,
L. P. GROSVENER.

Committee on Finance.
B. V. FRENCH,
CHEEVER NEWHALL.

GARDENER'S WORK FOR JULY.

KEEP all your crops free from weeds, and clean and prepare the ground where your early growth of peas, spinage, cauliflowers, early cabbages, &c. have grown. See that every vacant spot is planted with some useful herb, root, or shrub, for a good gardener, as well as dame nature abhors a vacuum. Continue to sow small-salading every eight or ten days as in former months; but they should now be sown on shady borders, or else be occasionally protected by mats or screens from the mid-day sun. It is, or soon will be time to plant out your celery plants in trenches; and in performing this you may proceed as directed page 23 in our No. of January last. About the middle of this month, and so on to the first of August you may sow turnips. Abercrombie recommends to steep the seed in sulphur-water, putting an ounce of sulphur to a pint of water, which, he says, will be suffi-

cient for a pint of seed. The method of sowing is either broad-cast or in drills. In the former mode Abercrombie directs to allow half an ounce of seed to every hundred square feet." Thin and transplant such lettuces as were sown last month that you may have a constant supply for the table. Sow radishes, each sort separately; and for a bed four feet six inches by twelve feet, two ounces will be required. They may be sown either broad-cast or in drills, but the latter is to be preferred. If you sow in drills, let them be for the smaller spindle rooted kinds half an inch deep, and about two inches and a half asunder; for the small turnip-rooted, three quarters of an inch deep, and four or five inches asunder; and for the black turnip or Spanish six or eight inches asunder; the root growing to the size of a middle sized turnip requires that distance. The *Farmer's Assistant* says that radishes being liable to be eaten by worms, the following method is recommended for raising them: Take equal quantities of buck-wheat bran, and fresh horse dung, and mix them well and plentifully in the ground by digging. Suddenly after this a great fermentation will be produced, and numbers of mushrooms will start up in fortyeight hours. Dig the ground over again and sow the seed, and the radishes will grow with great rapidity, and be free from the attacks of insects. In the last week in this month a crop of spinage may be sown for use in autumn; it will not then be so liable to go to seed as if it were sown earlier. It has been recommended to sow early sorts of cabbages about this time, for a supply of young greens during autumn. Crops of melons, cucumbers and squashes should now be kept very clean and free from weeds, the spaces between the hills must be carefully hoed in dry weather, taking care not to injure the vines. Sow Ruta baga, alias Swedish Turnip. M'Mahon observed that "this variety of the turnip is the most important of all, and deserves to be ranked in the first class of vegetable productions. Its quantity of produce, richness of flavor, and extreme hardiness render it of great importance, and give it a pre-eminence over every other kind.

The best time for sowing is from the twentieth of June to the twentieth of July, according to the season. The ground should be well prepared and manure scattered pretty thickly over; which done, it should be laid off in ridges about three feet apart, two furrows together, with the plough, and the seed sown on the top. By this method you have a double portion of manure in each row of turnips, and a better opportunity of attending to their after culture."

Collect all kinds of seeds as they come to maturity, cutting off or

pulling up the stems with the seeds attached as they ripen. Spread them in some airy place under cover, turning them now and then, that the seeds may dry and harden gradually, and be careful not to lay them so thick as to hazard their heating and fermenting. When they are sufficiently dry, beat out and clean the seed, and deposit them in bags or boxes till wanted. Give water to such plants as require it; but apply in the evening, water which has been previously warmed by a day's exposure to sunshine. Continue to nurse your plants with the hoe in the morning, and do not omit this attention to this indispensable branch of culture till frosts and snows shall supersede your labors.

Fruit Garden and Orchard. About this time you may attend to budding. "Budded trees are generally two years later in producing their fruit than grafted ones, but the advantage of budding is that where a plant is rare a new plant can be got from every eye; whereas by grafting it can only be got from every three or four eyes. There are also trees which propagate much more readily by budding than grafting; and others, as most of the stone fruits, are apt to throw out gum when grafted. When grafting has been omitted or has failed, in spring, budding comes in as an auxiliary in summer."*

Look carefully over your wall and espalier trees, rubbing off such shoots as project in front, train in all such regular growths as are designed to remain, close to the wall or espalier, at proper distances and positions. M'Mahon directs never to pull off any of the leaves nor thin the branches in order to expose the fruit to the sun; as the sudden exposure would be extremely injurious to them; by it their skin would be hardened and contracted and their growth greatly retarded.

The same writer directs to "pick off all punctured and decaying fruits and give them to the hogs; also such as have fallen, in that state, from the trees; for the worms that are in these fruit, which have been the cause of their decline, will soon arrive at their fly or winged state, and attack the remaining fruit." Or, if more convenient, pigs may be turned into the orchard, about the time fruit begins to fall, to eat up what drops and destroy the insect which it contains.

Vineyard. — Keep the ground free from weeds by plough, harrow or hoe. Weeds not only rob the vines of nourishment, but by perspiring dampen the air, and injure the fruit. Towards the last of

* See Loudon's Enc. of Gard. Likewise N. A. Gardener, p. 165, for particular directions relative to budding.

the month nip off the fruit bearing shoots in order to check their growth and to afford more nourishment to the grapes. But these shoots ought not to be nipped too close to the fruit, as that would check the circulation of the juices and the ripening of the fruit.

M'Mahon says, " such shoots as are intended to be cut down in the pruning season *for next year's fruiting*, are by no means to be topped, but should be suffered to grow at full length, taking care to keep them constantly divested of any side-branches, which ought always to be rubbed off as they appear. Were those to be topped at this season, it would force out at an untimely period, many of the flower-buds which nature had designed for the ensuing year, and consequently, at that time render the vines barren and unproductive.

Nursery. — Attend to grafted trees. In about a month after grafting, it may be ascertained whether the scion has *united* with the stock by observing the progress of its buds, but in general, it is not safe to remove the clay for three months or more, till the graft be completely cicatrized. The clay may generally be taken off in July or August, and at the same time the ligatures loosened where the scion seems to require more room to expand; a few weeks afterwards when the parts have thus been partially inured to the air, and there is no danger of the scion being blown off by the wind, the whole of the ligatures may be removed. If the stock was not shortened down close to the graft or junction of the scion with the stock, at the time of the operation, it may be done now, or as soon as the ligatures can be dispensed with. In particular cases a ligature round the graft or a stake, for the shoots of the scions, may be necessary for a year to come, to protect against winds; or a bandage of moss kept over the graft, to preserve moisture and encourage the expansion of the parts, and complete the filling up of the wound. — *Encyc. of Gard.*

FANEUIL HALL MARKET.

Saturday, June 27, 1835.

Vegetables. — Peas $1 a bushel; early string beans $1 a bushel; (these are the first in the market this season;) radishes 3 cents a bunch; onions 6 cents a bunch; early cabbages 6¼ cents a head; Lettuce 3 cents a head; turnips 6 cents a bunch; rhubarb 6 cents a pound; cucumbers $1 to $1,50 cents a dozen.

Fruit. — Strawberries 25 to 50 cents a box; Gooseberries 12½ cents box; currants 12½ cents a quart; cherries 12½ cents a quart.